



## SEQUENCE LISTING

Sub  
B1

<110> Schnable, Patrick S.  
Liu, Feng  
Fu, Yan

Q1

<120> NUCLEIC ACID MOLECULES ENCODING MULTIPLE  
START CODONS AND HISTIDINE TAGS

<130> 08411-027001

<140> US 09/897,776

<141> 2001-06-29

<150> US 09/732,990

<151> 2000-12-08

<150> US 60/169,725

<151> 1999-12-08

<160> 37

<170> FastSEQ for Windows Version 4.0

<210> 1

<211> 93

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetically generated oligonucleotide

<221> CDS

<222> (1)...(84)

<221> CDS

<222> (88)...(93)

<400> 1

aag ctt cac cac cat cat cat cac gca tca cca cca cca cca cgc atc  
Lys Leu His His His His His His Ala Ser Pro Pro Pro Pro Arg Ile

1

5

10

15

48

atc atc acc atc acc tcg agc gtc aca cta gct gag taa gca tgc  
Ile Ile Thr Ile Thr Ser Ser Val Thr Leu Ala Glu Ala Cys

20

25

30

93

<210> 2

<211> 66

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetically generated oligonucleotide

<400> 2

gtaccaccca ccatcatcat cagcatcac caccaccacc acgcatcatc atcaccatca cctcga	60 66
<210> 3	
<211> 14	
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<223> linker	
<400> 3	
ctgcagcggc cgcg	14
<210> 4	
<211> 22	
<212> DNA	
<213> Artificial Sequence	
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<223> linker	
<400> 4	
ctaggcgccg gcgacgtctc ga	22
<210> 5	
<211> 16	
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<223> linker	
<400> 5	
ctagctgcag atatca	16
<210> 6	
<211> 16	
<212> DNA	
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<220>	
<223> linker	
<400> 6	
agcttgatat ctgcag	16
<210> 7	
<211> 25	
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<223> primer for PCR	
<400> 7	
ccatcgatcc gagatagggt tgagt	25

<210> 8  
<211> 20  
<212> DNA  
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<220>  
<223> primer for PCR

<400> 8  
acgagctcag gcagagacga 20

<210> 9  
<211> 20  
<212> DNA  
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<220>  
<223> primer for PCR

<400> 9  
acgagctcgc agagacgacg 20

<210> 10  
<211> 26  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> primer for PCR

<400> 10  
cctcgagtca cacaggaaac agctaa 26

<210> 11  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> primer for PCR

<400> 11  
ggctagcagc tgtttcctgt gtga 24

<210> 12  
<211> 18  
<212> DNA  
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<220>  
<223> primer for PCR

<400> 12  
gtggagcatc tggtcgca 18

<210> 13

<211> 37  
 <212> DNA  
 <213> Artificial Sequence

<220>  
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<400> 13  
 gagatctgcc ataacatgtc atcatagctg tttcctg 37

<210> 14  
 <211> 35  
 <212> DNA  
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<220>  
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<400> 14  
 ctagccgaaa ttaatacgac tcactatagg gagac 35

<210> 15  
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<220>  
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<400> 15  
 tatacatatg gcatggcatg gccactgcag gatccaccac catcatcatc acgcatcacc 60  
 accacc 66

<210> 16  
 <211> 67  
 <212> DNA  
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<220>  
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<400> 16  
 gacgtcgcag gcttactcag ctagtgtgat ggtgatgatg atggcctatg gtggtggtgg 60  
 tgatgcg 67

<210> 17  
 <211> 97  
 <212> DNA  
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<220>  
 <223> Synthetically generated oligonucleotide

<400> 17  
 taatacgact cactataggg agaccacaac ggtttccctc tagaaataat ttgttttaac 60  
 ttaagaagg agatatacat atggcatggc atggcca 97

<210> 18  
 <211> 13  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetically generated oligonucleotide

<400> 18  
 atggcatggc atg

13

<210> 19  
 <211> 35  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> linker

<400> 19  
 aattgtctcc ctatagtgag tcgtattaat ttcgg

35

<210> 20  
 <211> 28  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Synthetically generated peptide

<400> 20  
 Lys Leu His His His His His Ala Ser Pro Pro Pro Pro Arg Ile  
 1 5 10 15  
 Ile Ile Thr Ile Thr Ser Ser Val Thr Leu Ala Glu  
 20 25

<210> 21  
 <211> 93  
 <212> DNA  
 <213> Artificial Sequence

<220>  
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<221> CDS  
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<221> CDS  
 <222> (80)...(91)

<400> 21  
 a agc ttc acc acc atc atc atc acg cat cac cac cac cac gca tca  
 Ser Phe Thr Thr Ile Ile Ile Thr His His His His His Ala Ser  
 1 5 10 15

49

tca tca cca tca cct cga gcg tca cac tag ctg agt aag cat  
 Ser Ser Pro Ser Pro Arg Ala Ser His Leu Ser Lys His

91

93

93

<210>	25
<211>	26

<212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Synthetically generated peptide

<400> 25  
 Ala Ser Pro Pro Ser Ser Ser Arg Ile Thr Thr Thr Thr Thr His His  
 1 5 10 15  
 His His His His Leu Glu Arg His Thr Ser  
 20 25

<210> 26  
 <211> 93  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetically generated oligonucleotide

<400> 26  
 gcatgcttac tcagctagtg tgacgctcga ggtgatgggtg atgatgatgc gtggtggtgg 60  
 tggatgatgcg tgatgatgat ggtggtgaag ctt 93

<210> 27  
 <211> 118  
 <212> DNA  
 <213> Artificial Sequence

<220>  
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<221> CDS  
 <222> (1)...(99)

<221> CDS  
 <222> (103)...(117)

<400> 27  
 tat aca tat ggc atg gca tgg cca ctg cag gat cca cca cca tca tca 48  
 Tyr Thr Tyr Gly Met Ala Trp Pro Leu Gln Asp Pro Pro Pro Ser Ser  
 1 5 10 15

tca cgc atc acc acc acc acc ata ggc cat cat cat cac cat cac act 96  
 Ser Arg Ile Thr Thr Thr Thr Ile Gly His His His His His His Thr  
 20 25 30

agc tga gta agc atg cga cgt c 118  
 Ser Val Ser Met Arg Arg  
 35

<210> 28  
 <211> 33  
 <212> PRT  
 <213> Artificial Sequence

<220>

<223> Synthetically generated peptide

<400> 28

Tyr Thr Tyr Gly Met Ala Trp Pro Leu Gln Asp Pro Pro Pro Ser Ser  
 1 5 10 15  
 Ser Arg Ile Thr Thr Thr Thr Ile Gly His His His His His His Thr  
 20 25 30  
 Ser

<210> 29

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetically generated peptide

<400> 29

Val Ser Met Arg Arg  
 1 5

<210> 30

<211> 118

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetically generated oligonucleotide

<221> CDS

<222> (2)...(70)

<221> CDS

<222> (74)...(103)

<221> CDS

<222> (107)...(118)

<400> 30

t ata cat atg gca tgg cat ggc cac tgc agg atc cac cac cat cat cat 49  
 Ile His Met Ala Trp His Gly His Cys Arg Ile His His His His His  
 1 5 10 15

cac gca tca cca cca cca cca tag gcc atc atc atc acc atc aca cta 97  
 His Ala Ser Pro Pro Pro Pro Ala Ile Ile Ile Thr Ile Thr Leu  
 20 25 30

gct gag taa gca tgc gac gtc 118  
 Ala Glu Ala Cys Asp Val  
 35

<210> 31

<211> 23

<212> PRT

<213> Artificial Sequence

<220>



<223> Synthetically generated peptide

<400> 31

Ile His Met Ala Trp His Gly His Cys Arg Ile His His His His His  
 1 5 10 15  
 His Ala Ser Pro Pro Pro Pro  
 20

<210> 32

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetically generated peptide

<400> 32

Ala Ile Ile Ile Thr Ile Thr Leu Ala Glu  
 1 5 10

<210> 33

<211> 4

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetically generated peptide

<400> 33

Ala Cys Asp Val

<210> 34

<211> 118

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetically generated oligonucleotide

<221> CDS

<222> (3)...(95)

<221> CDS

<222> (99)...(116)

<400> 34

ta tac ata tgg cat ggc atg gcc act gca gga tcc acc acc atc atc 47  
 Tyr Ile Trp His Gly Met Ala Thr Ala Gly Ser Thr Thr Ile Ile  
 1 5 10 15

atc acg cat cac cac cac cat agg cca tca tca tca cca tca cac 95  
 Ile Thr His His His His His His Arg Pro Ser Ser Ser Pro Ser His  
 20 25 30

tag ctg agt aag cat gcg acg tc 118  
 Leu Ser Lys His Ala Thr  
 35

*Ala  
con*